Jun 4th, 12:00 AM

Shaping the Way of Instruction: Fusion of Games, Lecture and Theatrical Techniques vs. Traditional Lecture Type of Library Instruction: Examining its Effectiveness in Undergraduate Library Instruction

Harold T. Franco
De La Salle University, harold.franco@dlsu.edu.ph

Bob P. Cauilan
De La Salle University, bob.cauilan@dlsu.edu.ph

SHAPING THE WAY OF INSTRUCTION: FUSION OF GAMES, LECTURE AND THEATRICAL TECHNIQUES VS. TRADITIONAL LECTURE TYPE OF LIBRARY INSTRUCTION: EXAMINING ITS EFFECTIVENESS IN UNDERGRADUATE LIBRARY INSTRUCTION

Harold T. Franco
De La Salle University
Philippines
harold.franco@dlsu.edu.ph/greymousebird29@gmail.com

Bob P. Cauilan
De La Salle University
Philippines
bob.cauilan@dlsu.edu.ph

Abstract

Nowadays, traditional lecture type of library instruction may work only to few audiences. Students exhibit various learning styles and along with this instruction, librarians are also faced with users of new generations. Users who are capable of multitasking, tech-savvy and are more inclined to surfing the net and engaging much on online chat, Internet discussion forums and online games, may find traditional type of instructions ineffective and boring.

In order to give an answer to the effectiveness of the library instruction being conducted in each term at the De La Salle University –Manila, a study has been made to compare the difference between a lecture type of instruction with that of a combination of games, lecture and theatrical techniques. Using participant observation, post test and hypothesis testing, similarities and differences were drawn from the two techniques.

Introduction

Instruction, learning styles and Millenials

The presence of library instruction in an academic setting is the best opportunity for the library to familiarize and promote its facilities, resources and services to all of its stakeholders. It is at the same time a chance for librarians to establish interpersonal relationship with students, dispelling themselves from stereotypes of being authoritative and strict that has been pictured of them. It would give them instead an idea that if they can treat their teachers as their second parents, they can do the same with the library as their second home.

With the fast-changing technology, new generations of students along with different learning styles has challenged educators of devising better ways of delivering instructions that will create more effective learning environment. Nowadays, traditional lecture type of library instruction may work only to few audiences. People exhibit various learning styles. Pritchard (2009) defined learning styles as a mode of learning-an individual's preferred or best manner(s) in which to think, process information and demonstrate learning, or simply, a particular way in which an individual learns. Kolb grouped these learning types as accomodator, diverger, converger and assimilator while Honey and Mumford grouped these different styles as activist, reflector, theorist and pragmatist (Saddler-Smith, 1997). Neuro-Linguistic Programming grouped them into three categories – visual, auditory and kinaesthetic while the Myers-Briggs model on the other hand classifies individuals to their preferences based on scales derived from the theories of psychological types formulated by Carl Jung which can then be combined to give 16 different

learning style types (Pritchard, 2009). Simply put, people have different learning styles from which they learn, like others learn by working in groups, some through visual means and others through lecture type setting. As O'Conner (1999) stated, intellectually capable individuals have broad range of preferences and this significant number of learning styles is best suited to pedagogical techniques other than lecturing.

Aside from students with different learning styles, educators are faced with users of different generations. They get to encounter and teach students who are born in an era of computers and technology, possessing skills of being tech-savvy, capable of multi-tasking, more inclined to the usage of social networking sites and surfing the net, dedicating much of their time in online chats, internet discussion forums and engaging in online games. These groups are called Millenials, born between 1980 and 2000. A study on library instruction for Millenials, reinforced that these students found the traditional lecture to be ineffective and boring and prefer a library instruction session that has active learning that utilizes current technologies (Partridge and Hallam, 2006). Oblinger (2003) stated that growing up in an online environment has contributed to students' high expectations regarding "service, immediacy, interactivity, and group activity". She recommends that educators take into account these expectations and find ways on eliminating delays, improving customer service, adapting instruction and allowing students to stay connected. O'Conner (1999) said that instructors who do not vary their presentation of material are likely to inhibit or lose the attention of students whose learning styles are not addressed. Offering alternative activities that supplement or replace traditional ones is one strategy to create increased opportunities for students with different learning styles.

Studies have shown how educators have used games as instructional tools in a variety of disciplines (Leach & Sugarman, 2006). Koether (2003) used a "name game" to teach students chemical information, Gublo (2003) used a trivia game to teach laboratory safety methods, and Deavor (1996), Grabowski and Price (2003), and Keck (2000) developed individual variations of a science themed Jeopardy! to improve student retention of content in the areas of organic, general and biochemistry. Games have also been used in psychology courses (Gibson, 1991; Merwin, 2003). Other disciplines such as biology (Franklin, Peat and Lewis, 2003; Lauer, 2003), nutrition (Burns, 1999); Dooley, Novotwy and Derrickson, 2001; Lacey, 2003), and physiology (Baily, Hsu and Di Carlo, 1999; Howards, Collins and Di Carlo, 2002) have incorporated various types of games such as Wheel of Fortune, Bingo and crossword puzzles into post-secondary classroom instruction.

In the field of library instruction, librarians make use of different techniques to address the issues of students learning styles and the Millenials. At Owens Library, Northwest Missouri State University, students engaged in a word find exercise or Jeopardy-style game at the end of a two-week library orientation instruction program in order to reinforce the material that had been taught (Ury & King, 19995). Similarly, freshmen at Simmons College played a game of library Jeopardy during the second of two library sessions in order to find out about library services "in a non-intimidating, fun manner" (Krajewski and Piroli, 2002). The latest of the studies is the application of a Jeopardy-style game in a one-shot or one-time library instruction session at Georgia State University Library (Leach and Sugarman, 2006) and Penn State Berks Campus (Walker, 2008).

Aside from games, humor has also been seen as another alternative for library instruction claiming numerous students benefit such as better retention of material, improved professor-student connection, greater attentiveness and interest, less academic stress, and makes the principles seem a little less abstract (Berk, 2002). Ziv (1976) has found humor facilitated creativity in a classroom situation by reducing student's anxiety levels. This is supported by Walker (2005), who noted that it does not only help to create an affective and positive environment, but it is also a source of enjoyment for both librarian instructor and the students. He recommends that simply smiling, relaxing and being attentive to student's needs are great ways to start cultivating one's sense of humor adding that making eye contact, calling students by name and moving about the classroom are also effective means for enhancing and expanding relationships with the class.

Theatrical techniques have also been seen as a good way to improve teaching performance in the classroom (Antonelli, Kempe and Sidberry, 2000), by integrating theatrical techniques such as voice, humor, movement, costume, props, music and rehearsal. The most recent study on library instruction involved the use of online games to teach incoming students on how to conduct library research and learning information literacy skills (Markey et. al., 2009).

Library instruction at DLSU Library - Manila

The DLSU Library - Manila operates on a trimestral academic year and each term, a library orientation is conducted for almost a month to freshmen students in place of one English Communication class in coordination with the English Language Department. Twenty and two librarians serve as library instructor and are assigned to a particular class, each given a 1 hour and 30 minutes to conduct the orientation.

Methodology

The study is conducted to determine if there is a difference in the rate of satisfaction and learning of students who have undergone two different types of library orientation, using participant observation, survey method, post-test and hypothesis testing. It was conducted on the third term of school year 2010-2011. Students who participated in the study were from 16-18 years old and came from different colleges. For the study, two treatments were employed on the two groups:

Treatment 1 (Combo of Games, Lecture and Theatrical Techniques)

On the first treatment, students were first introduced of the objectives and expectations of the library orientation, then theatrical techniques of voice and movement was applied to give the students an initial impression or an appearance of a strict and authoritative librarian-lecturer. Next, the orientation video was played (17-minute video). Once done with the introduction and the video, the instructor then asked the students to count off, separating the even numbers and odd ones. The former is grouped as Group A, while the latter as Group B. The instructor then smiled and informed the students of the first game that is identifying in every floor the sections of the library. The instructor calls 3 members from each group and told them that they had 3 minutes to identify which sections of the library belongs to what floors. On the second game, the students were asked to answer 4 set of multiple choice questions which entails searching for answers using title, author, call number, subject and keyword in the WEBOPAC. Each group was given 4 minutes each to accomplish the 4 set of questions in the cards. The third game was played using charades. Participant from each group have to act out a particular library service for 1 min each and the team have to guess it within that particular time otherwise the other team will have the chance to guess it. At the time the participant is acting it out, the instructor supplies some clue regarding the word being act out to aid the students in guessing it right. The fourth game is the same with that of the second treatment wherein multiple choice questions were shown in the power point about the library policies and procedures. Then trivial questions about the university or the library and how to locate a material through its call number were also supplied in the latter part of the power point presentation. The combo is similar to the Dynamic Learning program Carpio, Bernido and Porio (2011) in the sense that the 30% lecture-70% activity is implemented in a one time library instruction. All of the students in the treatment participated in every activity giving each and every one a chance to stand in the class and play. Combination of the English language and the vernacular were used in the entire period of the orientation.

Treatment 2 (Lecture-type setting of library instruction)

For the second treatment, students were also introduced of the objectives and expectations of the library instruction. The English language was used solely as a medium of instruction all throughout the orientation period. It was then followed by playing of the library orientation video (17-minute video) specifically discussing the library services, facilities, resources, policies and

procedures. Power point presentation containing questions about library policies and procedures were also incorporated and students were only asked to participate during the time when the utilization of Web Online Public Access Catalog and searching strategies on it was instructed.

For the participant observation, the librarian-lecturer observed the behaviors of the students on the two different treatments applied. The librarian-lecturer who conducted the library orientation on the treatment 1 was the same lecturer who conducted the library orientation on the treatment 2. On the survey method, students of the different treatments were asked to evaluate (using a 5-point Likert scale), the orientation video (in terms of presentation and pace, power point presentation, mode of presentation (ex. Games) of the use of the OPAC and searching strategies, language used, overall pace of the orientation, venue, rate of understanding of library facilities, concepts, and services, satisfaction and boredom was also conducted on both groups. The survey given was somehow similar to that of the usual survey being given at the library orientation. The only difference is that it concentrates on the pace, activities, venue and perception of the orientation and not of the lecturer. The students were also evaluated through an examination. The exam is composed of 10 items, all of which are pertaining to the library, its services, facilities and resources and were all discussed during the orientation. Both of the survey and exams were given after the orientation. Hypothesis test was employed using Mann Whitney *U* test to check whether there was a difference with the mean scores of the two treatments.

Findings

Participant observation revealed that students who undergone the two different treatments (lecture type of library instruction and combo of games, lecture and theatrical techniques) behave differently. On the lecture-type setting, students look or behave seriously, some can be observed to be attentive while others were halfway to being bored. Noise was pretty much coming from each group of students who were talking to each other about personal matters and there are times that it was so loud that it disrupted the lecture. The case is different with students who went through a combination of games, lecture and theatrical techniques. What can be observed from this group was that everyone was having fun and having a good time. Here instead, noise is coming from groups talking to each other of the answers to the questions on the games and instructing their teammates. The game charades was found to be the one were the students enjoyed the most. At the start of the session, students who are close to each other seat next to each other and they are the only ones talking. Through the groupings, students who may not be that close to each other were given a chance to work in a team thus building a good foundation for closeness. In terms of the language, both groups used a combination of English and the vernacular language when communicating with the lecturer. During the activities, both cases at first have shown hesitance in participation in the activity that the lecturer needed to call a student to participate on it. Since the 1st treatment has a lot of activities, it was later observed that students need not be called out in order for them to participate on the succeeding activities. The case was not the same with the 2nd treatment since there was only one activity on it (the searching strategies using the WebOPAC).

On the other hand, differences were also seen on the survey of both groups when rating on agree and strongly agree were combined. (table 1). Evaluation of the video (in terms of the presentation) in treatment 1 yield 7% on the neither agree nor disagree scale, 73% on agree and 20% on strongly agree. While treatment 2 got10% on the neither agree nor disagree scale, 45% on agree and 45% on strongly agree. For the power point presentation, treatment 1 got 13% on the neither agree nor disagree scale, 60% on agree and 27% on strongly agree while treatment 2 yield 25% on the neither agree nor disagree scale, 60% on agree and 15% on strongly agree. Treatment 1 got 7% on the neither agree nor disagree scale, 53% on agree and 40% on strongly agree while treatment 2 got 40% on the neither agree nor disagree scale, 50% on agree and 10% on strongly agree in terms of the mode of presentation in the usage of OPAC, online journals and searching strategies. In the terms of the language used in the orientation, students gave treatment 1 7% on the neither agree nor disagree scale, 40% on agree and 53% on strongly agree scale while treatment 2 got 5% on disagree, 10% on the neither agree nor disagree scale,

45% on agree and 40% on strongly agree. For the rating of the venue (conduciveness to learning), treatment 1 got 13% on the neither agree nor disagree scale, 67% on agree and 20% on strongly agree scale while treatment 2 yield 5% on disagree, 20% on the neither agree nor disagree scale, 45% on agree and 30% on strongly agree. Lastly, on the rating of students in terms of their level of understanding of the library facilities, concepts and services after the orientation, treatment 1 got 13% on the neither agree nor disagree scale, 73% on agree and 13% on strongly agree scale while treatment 2 got 20% on the neither agree nor disagree scale, 70% on agree and 10% on strongly agree scale.

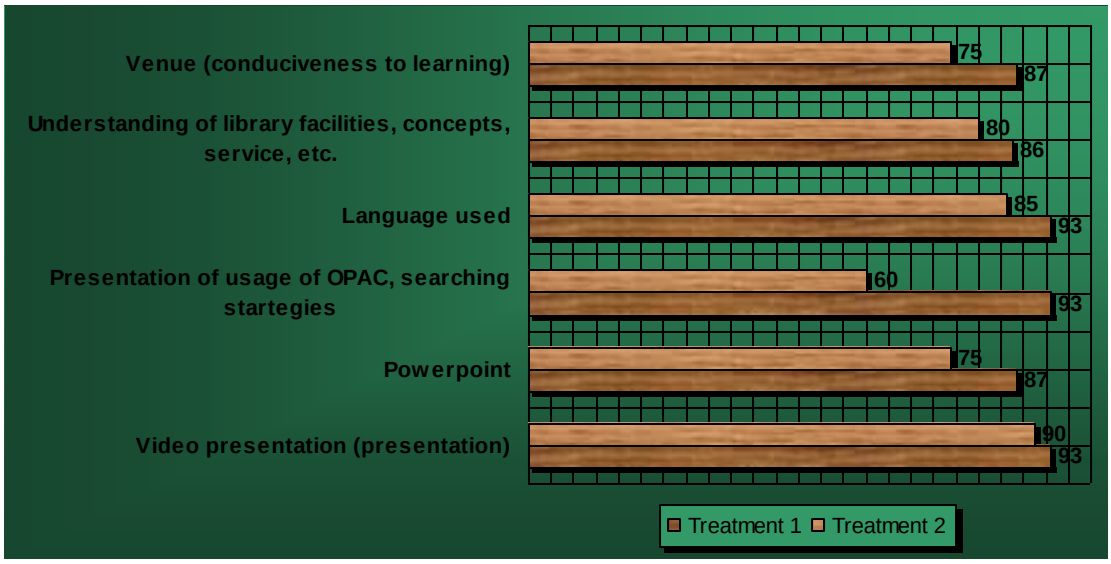
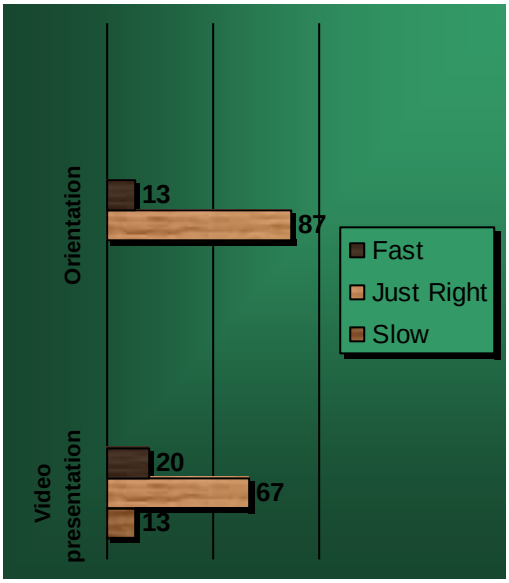


Table 1. Survey of the library orientation

Table 2 shows that for treatment 1, the evaluation of the orientation video (in terms of pace) rates are 13% on slow, 67% on just right and 20% on fast while on treatment 2, the evaluation of the orientation video (in terms of pace) are 15% on slow, 80% on just right and 5% on fast.

For the overall pace of the presentation, 87% find it just right while 13% find it fast on treatment 1 while 5% on the treatment 2 find it slow, 85% find it just right and 10% find it fast.



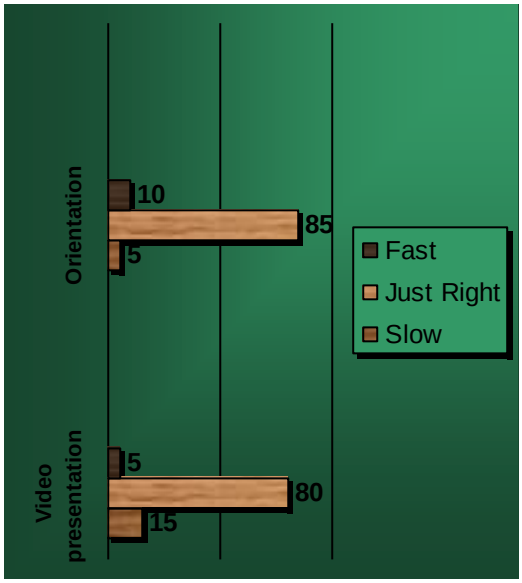


Table 2 .Rating in terms of pace (treatment 1) Table 3 .Rating in terms of pace (treatment 2)

To know if the students got satisfied on how the presentation was delivered, they were also asked to evaluate their satisfaction and boredom by simply saying yes or no. For the level of satisfaction on how the orientation was delivered, treatment 1 got 86.66% on yes and 7% on no, while the other 7% is from the neither yes nor no while treatment 2 got 100% on yes.

On the level of boredom, treatment 1 rated 13% on yes and 87% on no, while treatment 2 rated 20% on yes, 75% on no and 5% on neither yes nor no. Comments of the students were more games on the 1st treatment and free food for treatment 2.

Results of the post-test have shown a mean of 7.13, a median of 8, mode of 9 and sample standard deviation of 1.96 for treatment 1 while a mean of 5.80, median of 5, mode of 8 and 4 and standard deviation of 2.09 for the treatment 2 was obtained as shown below:

	N	Mean	St. Dev.	SE Mean
Treatment 1	**15**	**7.13**	**1.96**	**0.51**
Treatment 2	**15**	**5.80**	**2.09**	**0.54**

Table 4. Post test results

Scores of the post-test of each treatment are also stated on the table below:

Scores of students who undergone the library instruction	
Treatment 1 (x)	Treatment 2 (y)
3	2
4	4
5	4
6	4
6	4
7	5
7	5
8	5
8	6
8	7
9	8
9	8
9	8
9	8
9	9

To know if there is a difference with the two treatments, hypothesis test was done using Mann-Whitney *U* test using the variables obtained from the post-test results. The hypothesis was:

H_o= Library instruction conducted using a combination of games, lecture and theatrical techniques is as effective as a traditional lecture type.

H_a= Library instruction conducted using a combination of games, lecture and theatrical techniques is more effective than with the traditional lecture type.

As you can see, our hypothesis is H_o = treatment 1 = treatment 2 and H_a = treatment 1 > treatment 2. It is a one-tailed test and set on a significance level α .05. From the scores obtained by students from each treatment, we then merge the two samples, arraying the scores in rank order:

Scores	Rank	Library instruction treatment
2	1	Treatment 2
3	2	Treatment 1
4	5	Treatment 2
4	5	Treatment 2
4	5	Treatment 2
4	5	Treatment 2
4	5	Treatment 1
5	9.5	Treatment 2
5	9.5	Treatment 2
5	9.5	Treatment 2
5	9.5	Treatment 1
6	13	Treatment 2
6	13	Treatment 1
6	13	Treatment 1
7	16	Treatment 2
7	16	Treatment 1
7	16	Treatment 1
8	21	Treatment 2
8	21	Treatment 2
8	21	Treatment 2
8	21	Treatment 2
8	21	Treatment 1
8	21	Treatment 1
8	21	Treatment 1
9	27.5	Treatment 2
9	27.5	Treatment 1
9	27.5	Treatment 1
9	27.5	Treatment 1

9	27.5	Treatment 1
9	27.5	Treatment 1

Then, the rank of each sample (treatment 1 and treatment 2) were added up. R1 = the sum of the ranks of the treatment 1 and R2 = the sum of the ranks of treatment 2.

$$R1 = 2+5+9.5+13+13+16+16+21+21+21+27.5+27.5+27.5+27.5+27.5$$
$$= 275$$

$$R2 = 1+5+5+5+5+9.5+9.5+9.5+13+16+21+21+21+21+27.5$$
$$= 190$$

From the data above, we calculate the *U* statistic using the formula:

$$U1 = n1n2 + \frac{n1\,(n1+1)}{2} - R1$$

$$U2 = n1n2 + \frac{n2\,(n2+1)}{2} - R2$$

From the formula, we get the following *U* statistic:

$$U1 = (15)\,(15) + \frac{15\,(16)}{2} - 275 = 225 + \frac{240}{2} - 275 = 70$$

$$U2 = (15)\,(15) + \frac{15\,(16)}{2} - 190 = 225 + \frac{240}{2} - 190 = 155$$

Next, we get the minimum or smallest of these two values as our test statistic: *U*= minimum of *U*1 and *U*2, which is 70. From the table of critical values for Mann-Whitney *U* test for a one-tailed test with significance level α .05, we get 72. Thus, we reject H_o. This means that there is sufficient evidence that library instruction conducted using a combination of games, lecture and theatrical techniques is more effective than with the traditional lecture type. But when tried using the t-test for independent samples (two-tailed) at significance level of α .05, the result revealed otherwise. There was no difference with the mean scores of the two treatments.

Participant observation and hypothesis test using the Mann-Whitney *U* test have shown differences on the behavior and scores of students on the two treatments applied while the survey and post-test indicate close similarities on some aspects between the two. On the other hand, a follow up t-test for independent samples (two-tailed) revealed no difference between the mean scores of the two treatments. Perhaps similarities and differences could also be observed if the person who conducted the lecture on the two treatments were different and if treatment 2 was purely done on a lecture type approach. The study is only limited to the freshmen undergraduate students of the De La Salle University and is only applied to its one shot library instruction program. Both treatments can be applied in a one shot library instruction. Lecture type can be applied to a library instruction but librarian-lecturers need to take note of the behavior of students on such approach as specified in the participant observation. Applying the 30% lecture and 70% activity in a one shot library instruction is worth the effort for the librarian and for its class as well. With it, librarians can easily connect with students and establish rapport and students on the other hand, get to enjoy the experience of attending such library orientation. Students learn a lot from such activity and get a different view of the library and the librarian as well. Librarian-

lecturers should also consider the games that are most being played in the country or is more popular in that country for it somehow affects the interests of the students in the library instruction.

References

Antonelli, Monika, Kempe, Jeff and Sidberry, Greg. (2000). And now for something completely different… theatrical techniques for library instruction. Research Strategies 17. p. 177-185. PII: S0734-3310(00)00045=8

Baily, C. M. Hsu, C. T. and DiCArlo, S. E. (1999). Educational puzzles for understanding gastrointestinal physiology. Advances in Physiology Education 21(1). p. S1-S18.

Berk, R. A. (2002). Humor as an instructional defibrillator, Stylus Publishing, Sterling, V.A.

Burns, M. T. (1999). Nutrition pursuit: a review game. Journal of Nutrition Education 31(3). p. 175B-U9.

Carpio-Bernido, M. V., Bernido, C.C. and Porio, C.C. (2011). The learning physics as one nation initiative: bypassing the national stem teacher shortage. IN: Proceedings of the epiSTEME 4 Conference, Homi Bhabha Centre for Science Education, Mumbai, India, January 5-9. Retrieved from http://episteme4.hbcse.tifr.res.in/proceedings/strand-iii-curriculum-and-pedagogical-studies-in-stme/bernido-bernido-porio

Deavor, J. P. (1996). Chemical jeopardy. Journal of Chemical Education 73(5). p. 430,435.

Dooley, D.A. Novotny, R, and Derrickson, J.P. (2001). Wheel of nutrition in the round. Journal of Nutrition Education 33(3). p. 175-176.

Franklin, S., Peat, M., and Lewis, A. (2003). Non-traditional interventions to stimulate discussion: the use of games and puzzles. Journal of Biological Education 37(2). P. 79-84.

Gibson, B. (1991). Research methods Jeopardy: a tool for involving students and organizing the study session. Teaching of Psychology 18(3). p. 176-177.

Grabowski, J. J. and Price, M. L. (2003). Simple HTML templates for creating science-oriented Jeopardy! Games for active learning. Journal of Chemical Education 80(8). p. 967.

Gublo, K. I. (2003). A laboratory safety trivia game. Journal of Chemical Education 80(4). p. 425.

Howard, M. G. Collins, H. L. and DiCarlo, S. E. (2002). "Survivor" torches "Who wants to be a physician?" in the educational games ratings war. Advances in Physiology Education 26(1). p. 30-36.

Keck, M. V. (2000). A final exam review activity based on the Jeopardy format. Journal of Chemical Education 77(4). p. 483.

Koether, M. (2003). The name game: learning the connectivity between the concepts. Journal of Chemical Education 80(4). p. 421-422.

Krajewski, P. R. & Piroli, V. B. (2002). Something old, something new, something borrowed, something blue: active learning in the classroom. Journal of Library Administration 36 (1/2) p. 177-194.

Lacey, J. M. (2003). The nutritional Scattergories® game: adding zest to a nutrition course. Journal of Nutrition Education and Behavior 35(6). p. 333-334.

Lauer, T. E. (2003). Conceptualizing ecology: a learning cycle approach. American Biology Teacher 65(7). p. 518-523.

Leach, Guy S. and Sugarman, Tammy S. (2006). Play to win! Using games in library instruction to enhance student learning. Research Strategies 20 (3). p. 191-203. DOI: 10.1016/j.resstr.2006.05.002

Markey, Karen, Swanson Fritz, Jenkins, Andrea, Jennings, Brian, St. Jean, Beth, Rosenberg, Victor, Xingxing Yao and Frost, Robert. Will undergraduate students play games to learn how to conduct library research? (2009). The Journal of Academic Librarianship 35 (4). p. 303-313.

Merwin, M. M. (2003). Forbidden words: a strategy for studying psychology. Teaching of Psychology 30(3). p. 242-244.

Oblinger, D. (2003). Boomers, Gen-Xers and Millenials: understanding the new students. EDUCAUSE Review 38(4). 36-45.

O'Connor T. (1999). Using learning styles to adapt technology for higher education, Indiana State University Center for Teaching and Learning, Terre Haute, IN, available at http:// web.instate.edu/ctl/styles/learning.html.

Padilla, Elizabeth. [2010]. Assessment of the library orientation for freshmen students using the revised evaluation form for 2nd term and 3rd term AY 2009-2010.

Partridge, H. and Hallam, G. (2006). Educating the millennial generation for evidence-based practice. Library Hi Tech 24(3). p. 400-419.

Pritchard, Alan M. (2009). Ways of learning : learning theories and learning styles in the classroom. 2nd ed. London : Routledge.

Sadler-Smith, E. (1997). Learning style: frameworks and instruments. Educational Psychology 17 (1/2). p. 51-54.

Ury, C. J. and King, T. L. (1995). Reinforcement of library orientation instruction for freshman seminar students. Research Strategies 13(3). p. 153-164.

Walker, Billie E. (2008). This is jeopardy! An exciting approach to learning in library instruction. Reference Services Review 36(4). p. 381-388. DOI: 10.1108/00907320810920351

Walker, Billie E. (2006). Using humor in library instruction. Reference Services Review 34(1). p. 117-128. DOI: 10.1108/00907320610648806

Ziv, A. (1976). Facilitating effects of humor on creativity. Journal of Educational Psychology 68(3). P. 318-22.